



GRADE

3

**Instructional
Materials**

FOR THE

**CRITERION
REFERENCED
TEST**

Nevada

Grade 3

MATHEMATICS

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STATE OF NEVADA



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Dear educators,

The following materials, developed in cooperation with the Nevada Department of Education and our educational laboratory, WestEd, are designed to be used as part of a guided instructional activity to support student performance on assessments. While these materials can provide students with practice in answering assessment items, we believe it is critical that these materials be used to help students understand the elements of the state assessment and to guide them in the use of effective strategies that will support their ability to comprehend and take a variety of assessments. If you choose, however, to use this support document solely as a practice activity, we highly recommend that you go back over each item with students and investigate each response to better understand their knowledge of the assessment.

Types of Questions

The mathematics test includes two basic types of questions—multiple-choice items for all grades (3 through high school) and constructed-response items for grades 4 through 8. To help prepare students for constructed-response questions, we have provided you with:

1. the student checklist (included in the student test booklet at grades 4 and 5)
2. the general student rubric (included in the student test booklet at grades 6 through 8)
3. item-specific rubrics

With the use of these materials, students can become familiar with the different types of questions used on the state assessments. They can learn to use the checklist or rubric to determine if they have answered the constructed-response questions completely. Familiarity with the tools provided as part of the test and the vocabulary of the standards can result in less anxiety on the part of students. Please note that the student checklist and general rubric can be on the walls of your classroom throughout the school year. As you assign constructed-response questions, students can use these tools as they develop their answers.

The types of questions on these documents allow for the assessment of different levels of cognitive demands, which are explained below. The questions are developed so that students can demonstrate mathematical thinking at multiple cognitive levels. Teaching students to identify, write, and use different levels of questioning skills as they assess various mathematical concepts can only lead to improved achievement on classroom, state, and national assessments. The use of this material will assist in the creation of a student who is a powerful mathematical thinker.

Cognitive Ability Levels

The assessment of mathematics as part of Nevada's Proficiency Examination Program includes the assessment of three cognitive ability levels. These ability levels are based on the National Assessment of Educational Progress (NAEP) Aspects of Mathematics. The following are the three levels used in the state of Nevada:

Conceptual Understanding (A-1) – Students will be asked to apply and know facts and definitions. They also will be asked to use and relate models, diagrams, manipulatives or representations of concepts and principles, as well as extend the nature of concepts and principles. The students also will interpret assumptions and relations involving concepts and principles in mathematical settings.

Procedural Knowledge and Skill (A-2) – Students will be asked to use mathematical algorithms to efficiently complete a task. They can perform non-computational tasks such as rounding and ordering. Students also can produce or interpret tables, graphs and constructions. They will use reasoning to connect algorithms and skills to complete a given task.

Problem Solving (A-3) – Students will be asked to use strategies, data, models, and relevant mathematics effectively. They can generate, extend, and modify procedures to fit new situations. Student will be able to judge and document the validity and appropriateness of solutions in novel mathematical and practical situations.

Mathematical Content Literacy

The Nevada Department of Education believes that students are not thoroughly being taught the content and vocabulary of the Nevada Mathematics Content and Process Standards. For example, mean, total, stem and leaf, and translate are terms used in the assessments at grade-appropriate levels and can have different meanings depending upon how the word is used.

Students in Nevada, therefore, must have repeated experiences with **hearing** (oral vocabulary), **reading**, and **writing** the vocabulary of the standards in order to be successful on the state assessment as well as in classroom and district tests. Make sure that your students know the language of the standards that are being tested. They should be able to recognize the vocabulary of the standards when you discuss them in class and read them in texts, and they should be able to effectively use the words in their writing. This will be especially useful when students are working on the constructed-response items of the exam.

We hope that interaction with these instructional support materials will lead to lowered anxiety and better understanding of the assessment task that is being presented to students. If you have questions about the mathematics materials or how to embed this information into your curriculum, please contact Dave Brancamp at dbrancamp@doe.nv.gov or call (775) 687-9133, and he will work with you on making these documents beneficial to you and your students.

Cindy Sharp
K – 12 CRT/HSPE Consultant
Nevada Department of Education

Name: _____

Mathematics

Grade 3

This booklet contains mathematics questions for you to answer. For the questions, you will be given four answer choices—A, B, C, and D. You are to choose the correct answer from the four choices. Each question has only one right answer.

- 1** Which measurement is **closest** to the thickness of a dime?

A 1 centimeter
B 1 decimeter
C 1 kilometer
D 1 millimeter

- 2** Jamal used skip-counting to write the pattern below.

7, 14, 21, 28, 35, 42, . . .

What is the next number in Jamal's skip-counting pattern?

A 46
B 49
C 53
D 56

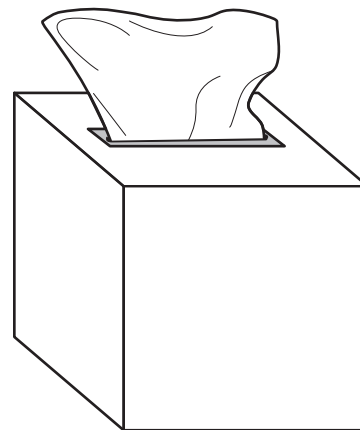
- 3** Look at the number sentence below.

$$521 \bigcirc 261 = 260$$

Which symbol should be placed in the \bigcirc to make the number sentence true?

A $>$
B $<$
C $-$
D $+$

- 4** The drawing below shows a three-dimensional box with tissue in it.

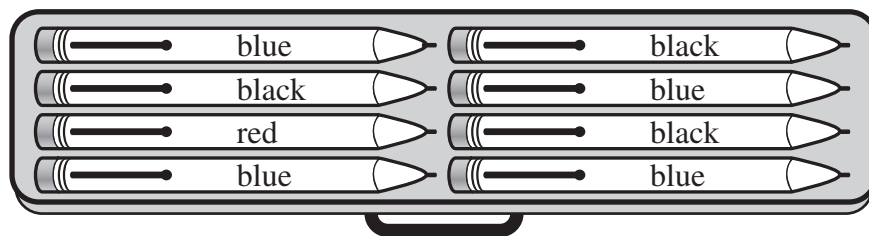


The box is **most** like a

A cube.
B sphere.
C trapezoid.
D triangle.

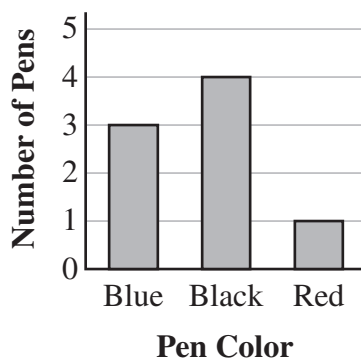
5

The picture below shows a drawer with different colored pens.

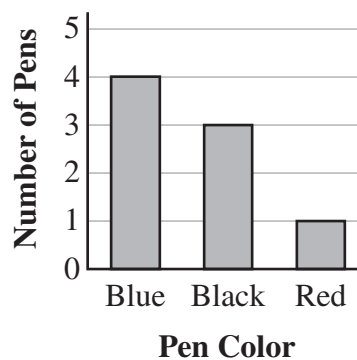


Which bar graph correctly shows the number of each pen color in the drawer?

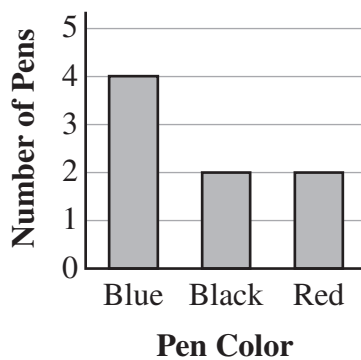
A **Colored Pens**



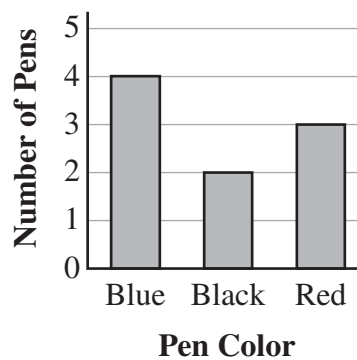
C **Colored Pens**



B **Colored Pens**



D **Colored Pens**



- 6** Ms. Grady has 8 flowerpots for tulips. She planted 7 tulips in each flowerpot, as shown below.



What is the total number of tulips Ms. Grady planted in her 8 flowerpots?

- A 15 tulips
- B 49 tulips
- C 54 tulips
- D 56 tulips

- 7** A number is missing in the number pattern shown below.

24, 20, 16, __, 8, 4

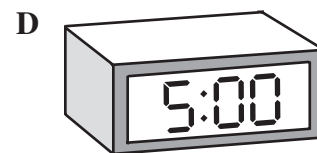
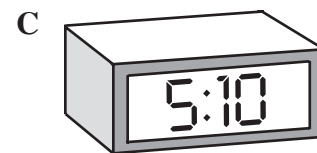
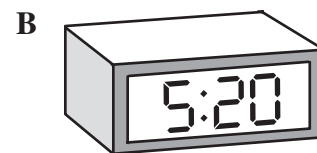
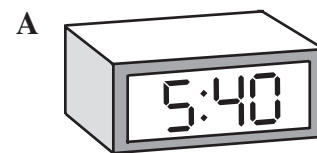
What number is missing?

- A 11
- B 12
- C 14
- D 15

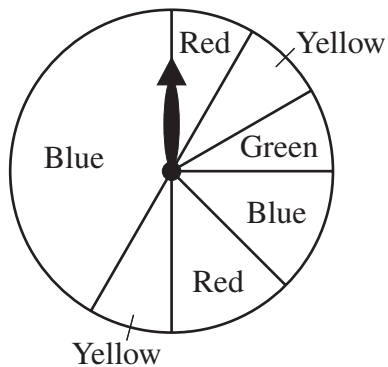
- 8** Tara's dance practice began at 4:55, as shown on the clock below.



Tara practiced for 45 minutes. Which clock shows the time Tara's dance practice ended?



- 9** A spinner has sections colored red, yellow, green, and blue, as shown below.



Tricia spins the arrow on the spinner. Which word **best** describes the chance that the arrow stops in a section colored green?

- A likely
- B certain
- C unlikely
- D impossible

- 10** Juan bought a set of sport cards for \$4.53 . He paid for the cards with \$10.00 . What is the correct amount of change Juan should receive?

- A \$4.53
- B \$5.47
- C \$5.53
- D \$6.47

- 11** Rachel writes 2 letters to her cousins and 1 letter to her grandfather each week. The number pattern below shows the total number of letters Rachel has written after each week for the first 5 weeks.

3 6 9 12 15

Rachel continues the pattern of writing letters. Which rule **best** describes how to find the total number of letters Rachel has written after each week?

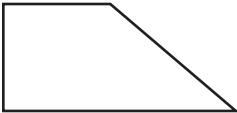
- A add 2 and then subtract 1 from the total number of letters from the week before
- B multiply the total number of letters from the week before by 3
- C multiply the total number of letters from the week before by 5
- D add 3 to the total number of letters from the week before

- 12** Which figure appears to have exactly 3 sides that are the same length?

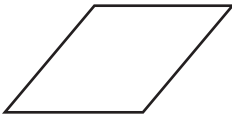
A



B



C



D



- 13** Katie has visited 15 of Nevada's 24 state parks. How many Nevada state parks has Katie **not** visited?

- A 39 parks
- B 31 parks
- C 9 parks
- D 7 parks

- 14** The bills and coins shown below represent the money Carmen earned doing chores for her neighbors.



What is the total amount of money Carmen earned doing chores for her neighbors?

- A \$6.00
- B \$6.50
- C \$7.00
- D \$7.50

- 15** The table below shows the color and number of toy horses Evan has in his toy box.

Evan's Toy Horses

Color	Number
Black	3
Brown	2
White	5

Evan will select a toy horse from his toy box without looking. Which word **best** describes the chance that Evan will select a gray horse?

- A impossible
- B unlikely
- C certain
- D likely

- 16** Subtract: $\$5.80 - \1.50

- A \$4.70
- B \$4.30
- C \$3.70
- D \$3.30

- 17** A number sentence is shown below.

$$6 + \square = 13$$

What number goes in the \square to make the number sentence true?

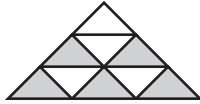
- A 6
- B 7
- C 19
- D 25

- 18** The frame around a mirror does **not** have any straight sides. Which could be the shape of the frame?

- A a circle
- B a rectangle
- C a rhombus
- D a triangle

19

The figure below is made of small congruent triangles. Some of the triangles are shaded.

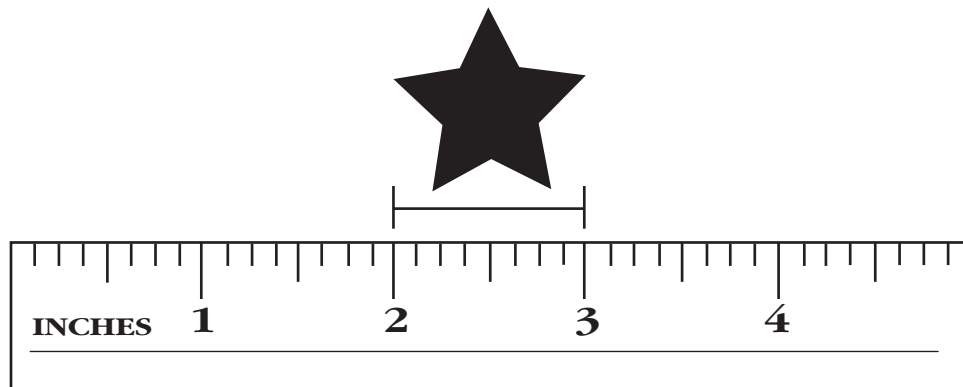


What fraction of the figure is shaded?

- A $\frac{4}{9}$
- B $\frac{5}{9}$
- C $\frac{2}{3}$
- D $\frac{4}{5}$

20

The drawing below shows the size of a star sticker with an inch ruler.



How wide is the star sticker, to the nearest inch?

- A 1 inch
- B 3 inches
- C 5 inches
- D 8 inches

21

Which unit of measure would be **best** to use to measure the weight of a pair of eyeglasses?

- A foot
- B ounce
- C pint
- D pound

22

The numbers below are part of a number pattern that repeats.

3 2 1 0 3 2 1 0 3 2 1 0 3 2 1 0 3 2 1

What is the next number in the pattern?

- A 0
- B 1
- C 2
- D 3



23

What is the place value position of the digit 3 in the number 7,392 ?

- A ones
- B tens
- C hundreds
- D thousands

24

The pictograph below shows the number of flowers Ms. Lunoff received from four students.

Flowers Ms. Lunoff Received

Student	Number of Flowers
Nina	* *
Anthony	* * * *
Millie	*)
George	* *)

Key

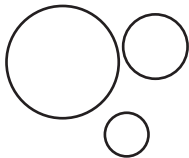
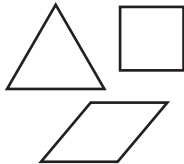
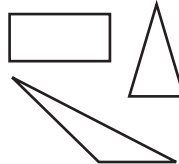
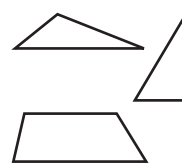
* = 2 flowers

Based on the pictograph, what is the total number of flowers Ms. Lunoff received from the four students?

- A 2 flowers
- B 5 flowers
- C 10 flowers
- D 20 flowers

25

Thomas sorted some shapes into the four groups shown below.

Group A**Group B****Group C****Group D**

In which group should Thomas place a shape with sides that are all the same length?

- A group A
- B group B
- C group C
- D group D

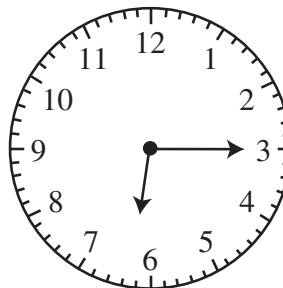
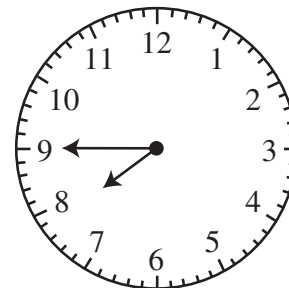
26

Add: $\$8.75 + \4.25

- A \$13.00
- B \$12.90
- C \$12.10
- D \$12.00

27

Bethany worked on a puzzle from 6:15 P.M. to 7:45 P.M., as shown on the clocks below.

Start Time**End Time**

How much time did Bethany spend working on the puzzle?

- A 2 hours 30 minutes
- B 2 hours 15 minutes
- C 1 hour 30 minutes
- D 1 hour 15 minutes

- 28** Look at the number sentence below.

$$3,279 \bigcirc 3,501$$

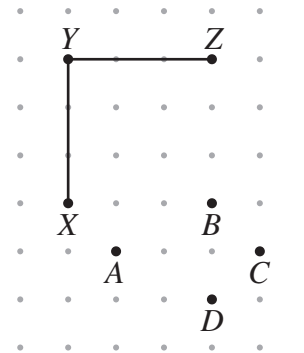
Which symbol should be placed in the \bigcirc to make the number sentence true?

- A =
- B >
- C ^
- D <

- 29** Warren uses 9 gallons of water with each load of dishes he washes. Warren washed 6 loads of dishes. What is the total amount of water he used washing dishes?

- A 15 gallons
- B 16 gallons
- C 54 gallons
- D 56 gallons

- 30** The drawing below shows some dots and lines Carson made on dot paper. He connected dots X, Y, and Z to draw two sides of a trapezoid, as shown below.

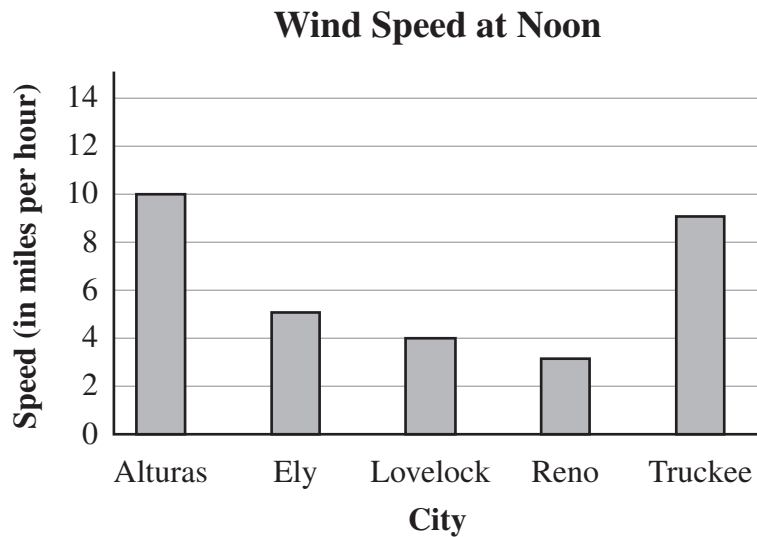


Which dot can be connected to dot X and to dot Z to complete Carson's trapezoid?

- A dot A
- B dot B
- C dot C
- D dot D

31

The bar graph below shows the wind speed at noon in 5 cities.



Based on the graph, which city had the **fastest** (greatest) wind speed?

- A Alturas
- B Ely
- C Reno
- D Truckee

32

What is $11 - 2$?

- A 7
- B 9
- C 11
- D 13

33

Regina gave a store clerk \$3.00 to pay for some juice bars that cost a total of \$2.39 . Which shows the correct amount of change Regina should receive?

A**B****C****D****34**

Mary has a total of 7 pens and pencils on her desk. The number sentence below shows information about the number of pens and pencils on Mary's desk.

$$\underline{\quad} + \underline{\quad} = 7$$

Which numbers could be placed in the blanks to make the number sentence true?

- A** 2 and 4
- B** 4 and 3
- C** 5 and 3
- D** 7 and 2

35

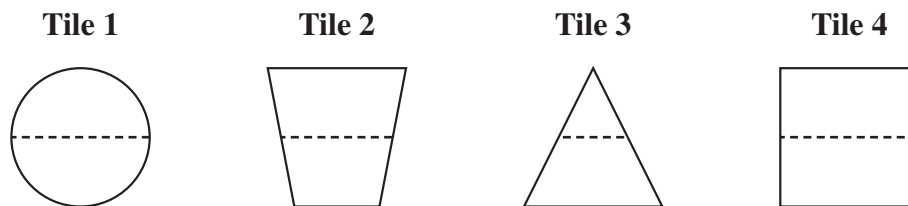
A box is filled with 24 packages of flavored oatmeal. There are 10 packages of apple flavor, 4 packages of banana flavor, 6 packages of cinnamon flavor, and 4 packages of strawberry flavor. Robbi took one package of oatmeal from the box without looking. Which flavor did Robbi **most** likely take?

- A** apple flavor
- B** banana flavor
- C** cinnamon flavor
- D** strawberry flavor

- 36** A bus has seats for 15 people. There are 8 people seated on the bus. Then, 4 more people take seats on the bus. How many seats on the bus are empty?

A 3 seats
B 7 seats
C 11 seats
D 19 seats

- 37** John has four different-shaped tiles. He draws a line halfway between the top and the bottom of each tile, as shown below.



For each tile, John will cut along the line to make two new shapes. Which tiles will be cut into two congruent shapes?

A tile 1 and tile 2
B tile 2 and tile 3
C tile 3 and tile 4
D tile 4 and tile 1

- 38** Look at the number sentence below.

$$17 + 84 \bigcirc 160 - 96$$

Which symbol should be placed in the \bigcirc to make the number sentence true?

- A <
- B >
- C ^
- D =

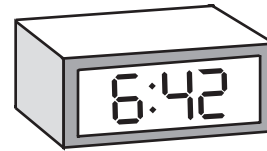
- 39** The number pattern below shows a skip-counting pattern that begins at 45 .

45 54 63 72

What is the next number in the skip-counting pattern?

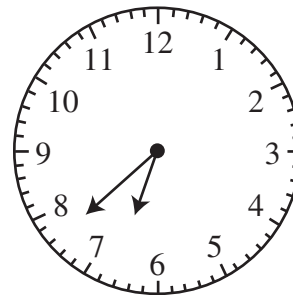
- A 80
- B 81
- C 83
- D 90

- 40** The digital clock below shows the time Consuelo woke up this morning.

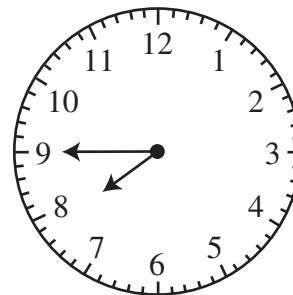


Which clock shows the same time as the digital clock?

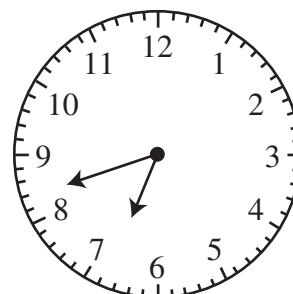
A



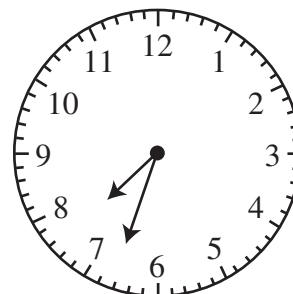
B



C



D





You may want to go back and check your answers or answer questions you did not complete.



GRADE

3

Appendix I

Scoring Support Materials

Nevada

Grade 3

MATHEMATICS

Correct Answers for Multiple-choice Items

Item Number	Correct Answer	Content Cluster	Ability Level
1	D	C3	A1
2	B	C1	A1
3	C	C2	A2
4	A	C3	A1
5	C	C4	A2
6	D	C1	A3
7	B	C2	A1
8	A	C3	A2
9	C	C4	A1
10	B	C1	A3
11	D	C2	A3
12	A	C3	A1
13	C	C1	A2
14	C	C3	A1
15	A	C4	A1
16	B	C1	A2
17	B	C2	A1
18	A	C3	A3
19	B	C1	A1
20	A	C3	A2

Item Number	Correct Answer	Content Cluster	Ability Level
21	B	C3	A1
22	A	C2	A2
23	C	C1	A1
24	D	C4	A3
25	B	C3	A2
26	A	C1	A2
27	C	C3	A3
28	D	C2	A1
29	C	C1	A3
30	D	C3	A1
31	A	C4	A1
32	B	C1	A1
33	D	C3	A2
34	B	C2	A1
35	A	C4	A1
36	A	C1	A3
37	D	C3	A1
38	B	C2	A2
39	B	C1	A2
40	C	C3	A1

Detailed objectives for Content Standards and Ability Levels can be found on the Nevada Department of Education Website.



GRADE

3

Nevada

Appendix II

Administrative Support Materials

Grade 3

MATHEMATICS

Name: _____

Answer Document

Mathematics

1.	(A)	(B)	(C)	(D)
2.	(A)	(B)	(C)	(D)
3.	(A)	(B)	(C)	(D)
4.	(A)	(B)	(C)	(D)
5.	(A)	(B)	(C)	(D)
6.	(A)	(B)	(C)	(D)
7.	(A)	(B)	(C)	(D)
8.	(A)	(B)	(C)	(D)
9.	(A)	(B)	(C)	(D)
10.	(A)	(B)	(C)	(D)
11.	(A)	(B)	(C)	(D)
12.	(A)	(B)	(C)	(D)
13.	(A)	(B)	(C)	(D)
14.	(A)	(B)	(C)	(D)
15.	(A)	(B)	(C)	(D)
16.	(A)	(B)	(C)	(D)
17.	(A)	(B)	(C)	(D)
18.	(A)	(B)	(C)	(D)
19.	(A)	(B)	(C)	(D)
20.	(A)	(B)	(C)	(D)

21.	(A)	(B)	(C)	(D)
22.	(A)	(B)	(C)	(D)
23.	(A)	(B)	(C)	(D)
24.	(A)	(B)	(C)	(D)
25.	(A)	(B)	(C)	(D)
26.	(A)	(B)	(C)	(D)
27.	(A)	(B)	(C)	(D)
28.	(A)	(B)	(C)	(D)
29.	(A)	(B)	(C)	(D)
30.	(A)	(B)	(C)	(D)
31.	(A)	(B)	(C)	(D)
32.	(A)	(B)	(C)	(D)
33.	(A)	(B)	(C)	(D)
34.	(A)	(B)	(C)	(D)
35.	(A)	(B)	(C)	(D)
36.	(A)	(B)	(C)	(D)
37.	(A)	(B)	(C)	(D)
38.	(A)	(B)	(C)	(D)
39.	(A)	(B)	(C)	(D)
40.	(A)	(B)	(C)	(D)



Keith W. Rheault

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